Date of issue : 13 August, 2003
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Safety Data Sheet

1. Product and company identification

Product name	:	L-Leucine
Name of manufacturer	:	KANTO CHEMICAL CO., INC.
Address	:	2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, Japan
Name of section	:	Reagent division, catalog and products information section
Telephone number	:	+81-3-6214-1090
Facsimile number	:	+81-3-3241-1047
Mail address	:	BC32@gms.kanto.co.jp
SDS No.	:	24095

2. Summary of danger and Hazard

GHS classification

Physical and chemical hazard

Flammable solids	:	Out of category
Pyrophoric solids	:	Out of category

Human health hazard

Acute toxicity(oral)	:	Out of category
Skin corrosion/irritation	:	Out of category
Serious eye damage/eye irritation	:	Out of category
Germ cell mutagenicity	:	Out of category
Carcinogenicity	:	Out of category
Reproductive toxicity	:	Out of category
Specific target organ systemic toxicity(single exposure)	:	Out of category
Specific target organ systemic toxicity(repeated exposure)	:	Out of category

3. Composition/Information on ingredients

Substance/Mixture	:	Substance
Chemical name or commercial name	:	L-Leucine
Ingredients and composition	:	L-Leucine min. 99.0%
Chemical formula	:	(CH3)2CHCH2CHNH2COOH
CAS No.	:	61-90-5
TSCA Inventory	:	Registered
EINECS No.	:	2005220

4. First aid measures

Inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

Skin contact : Wash the affected areas under running water.

Eye contact : Wash the affected areas under running water.

Ingestion : Give the victim water immediately.

5. Fire fighting measures

Extinguishing media : Water, dry chemical powder, carbon dioxide, dry sand, foam

Prohibited extinguishing media

: None

Particular fire fighting : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Protection for firefighters

: Firefighters should wear protective equipment.

6. Accidental release measures

Cautions for personnel : Wear proper protective equipment and avoid contact with skin and inhalation of dust. Conduct operations from upwind and evacuate people downwind.

Cautions for environment : Attention should be given to avoid discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated wastewater into the environment must be avoided.

Removal measure : Sweep up in a chemical waste container. Flush contaminated area with copious amounts of water.

7. Cautions of handling and storage

Handling

Engineering measures : If necessary, wear proper protective equipment to avoid contact with skin or inhalation of dust.

Cautions for safety handling

: Avoid formation of dust and aerosols.

Storage

Adequate storage condition

: Store in a dark, cool place and tightly closed.

Safety adequate container materials

: Glass, polyethylene, polypropylene

8. Exposure control/Personal protection

Engineering measures : Use with an enclosed system or a local exhaust ventilation.

Control parameters

ACGIH(2015) : Not established

Protective equipment

Respiration protective equipment

: If necessary, wear dust mask

Hands protective equipment
: Impervious protective gloves
Eyes protective equipment
: Safety goggles

9. Physical and chemical properties

Appearance	:	Crystal or crystalline powder
Color	:	White
Odor	:	Odorless
pH	:	5.5-7.0(10g/L, 25℃)
Boiling point	:	Decomposition
Melting point	:	Decomposition(293-295℃)
Flash point	:	Not available
Auto-ignition point	:	Not available
Explosion characteristics		
Explosion limit	:	Not available
Vapor pressure	:	Not available
Density	:	1.293g/cm3 (20℃)
Solubility		
Solubility in solvents	:	Water ; 2.4%(25℃)
		Organic solvents ; Practically insoluble in ethanol, insoluble in diethyl ether.
log Pow	:	Not available
Other data	:	Sublimation(145-148℃)

10. Stability and reactivity

Stability	:	Stable under normal conditions.
Reactivity	:	May react with strong oxidizing substances.
Incompatible conditions	:	Light, heat
Incompatible materials	:	Oxidizing substances
Hazardous decomposition products		
	:	Carbon monoxide, nitrogen oxides

11. Toxicological information

Acute toxicity	:	Oral : Out of category
		Dermal : Not possible to classify because of insufficient data.
		Inhalation(vapor) : Not possible to classify because of insufficient data.
		Inhalation(dust, mist) : Not possible to classify because of insufficient data.
		rat oral LD50>16g/kg
Skin corrosion/irritation	:	Out of category
		Since the pH of the aqueous solution was 5.5-7.0, it was classified into out of category.
Serious eye damage/eye irritation		
	:	Out of category

Since the pH of the aqueous solution was 5.5-7.0, it was classified into out of category.

Respiratory sensitization or Skin sensitization

: Respiratory sensitization : Not possible to classify because of insufficient data.

Skin sensitization : Not possible to classify because of insufficient data.

Mutagenicity : Out of category

L-leucine is one of the essential amino acids and was classified into out of category/.

Carcinogenic effects : Out of category

L-leucine is one of the essential amino acids and was classified into out of category/.

Effects on the reproductive system

: Out of category

L-leucine is one of the essential amino acids and was classified into out of category/.

Specific target organ systemic toxicity single exposure

: Out of category

L-leucine is one of the essential amino acids and was classified into out of category/.

Specific target organ systemic toxicity repeated exposure

: Out of category

L-leucine is one of the essential amino acids and was classified into out of category/.

Aspiration hazard : Not possible to classify because of insufficient data.

12. Ecological information

Ecotoxicity

Fish toxicity : Acute aquatic toxicity : Not possible to classify because of insufficient data.

Chronic aquatic toxicity : Not possible to classify because of insufficient data.

Persistence and degradability

: Not available

Bioaccumulative potential : Not available

Mobility in soil : Not available

13. Disposal consideration

Residual disposal : Mixed with flammable organic solvents and burn in a chemical incinerator equipped with an afterburner and a scrubber. Or entrust approved waste disposal companies with the disposal.

Containers : In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

UN class : It is not regulated under UN regulations.

15. Regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

References Dictionary of Organic Compounds, The society of Synthetic Organic Chemistry, Kodansha Ltd.(1985)

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully.The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements.The information herein is only provision of information, and it does not represent a guarantee the properties of the product.The Safety Data Sheet(SDS) is prepared based on JIS Z7253, and it has the same required elements on the Material Safety Data Sheet(MSDS) which is prepared based on JIS Z7250:2010.